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Test 880: Ford 5000 Select-O-Speed (Diesel)

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NEBRASKA TRACTOR TEST 880 - FORD 5000 SELECT-O-SPEED DIESEL

POWER TAKE-OFF PERFORMANCE

Hp	Crankshaft speed rpm	Fuel Consumption		Hp-hr per gal	Temperature Degrees F			Barometer inches of Mercury
		Gal per hr	Lb per hp-hr		Cooling medium	Air wet bulb	Air dry bulb	
MAXIMUM POWER AND FUEL CONSUMPTION								
Rated Engine Speed—Two Hours								
54.17	2100	3.537	0.451	15.32	194	55	74	28.898
Standard Power Take-off Speed (540 rpm)—One Hour								
51.49	1901	3.224	0.433	15.97	195	56	76	28.890
VARYING POWER AND FUEL CONSUMPTION—TWO HOURS								
48.27	2201	3.192	0.457	15.12	192	55	75	.....
0.00	2304	1.064	.....	.....	178	54	73	.....
24.74	2257	2.085	0.582	11.87	185	55	74	.....
54.34	2101	3.553	0.452	15.29	196	56	76	.....
12.47	2277	1.555	0.861	8.02	180	53	69	.....
36.79	2235	2.602	0.488	14.14	189	54	74	.....
Av 29.44	2229	2.342	0.549	12.57	187	54	73	28.897

DRAWBAR PERFORMANCE

Hp	Drawbar pull lbs	Speed miles per hr	Crankshaft speed rpm	Slip of drivers %	Fuel Consumption		Hp-hr per gal	Temp Degrees F			Barometer inches of Mercury
					Gal per hr	Lb per hp-hr		Cooling med	Air wet bulb	Air dry bulb	
VARYING DRAWBAR POWER AND FUEL CONSUMPTION WITH BALLAST											
Maximum Available Power—Two Hours—6th Gear											
45.32	3963	4.29	2100	5.91	3.512	0.535	12.90	193	53	63	28.785
75% of Pull at Maximum Power—Ten Hours—6th Gear											
37.28	3023	4.63	2223	4.11	2.987	0.553	12.48	182	47	52	28.806
50% of Pull at Maximum Power—Two Hours—6th Gear											
26.30	2064	4.78	2267	2.84	2.422	0.636	10.86	180	40	41	28.825
MAXIMUM POWER WITH BALLAST											
36.98	6973	1.99	2208	14.75	4th Gear	.....	178	48	54	28.800	
45.70	5273	3.25	2102	8.54	5th Gear	.....	184	50	59	28.790	
45.98	4026	4.28	2104	6.18	6th Gear	.....	190	50	59	28.790	
44.36	3344	4.98	2099	5.11	7th Gear	.....	189	50	59	28.790	
43.41	2514	6.48	2098	3.76	8th Gear	.....	188	52	62	28.780	
40.61	1426	10.68	2102	2.23	9th Gear	.....	188	52	62	28.780	
MAXIMUM POWER WITHOUT BALLAST											
44.50	4037	4.13	2103	10.73	6th Gear	.....	183	61	68	28.360	

VARYING DRAWBAR PULL AND TRAVEL SPEED WITH BALLAST—6th Gear

Pounds pull	4026	4240	4306	4318	4235	4149
Horsepower	45.98	43.35	38.88	34.11	28.63	23.35
Crankshaft Speed, rpm	2104	1889	1671	1463	1250	1039
Miles per hour	4.28	3.83	3.39	2.96	2.54	2.11
Slip of Drivers, %	6.18	6.49	6.61	6.73	6.49	6.37

TIRES, BALLAST and WEIGHT

		With Ballast	Without Ballast
Rear tires	—No, size, ply & psi	Two 16.9-30; 6; 16	Two 16.9-30; 6; 16
Ballast	—Liquid	858 lb each	None
	Cast iron	935 lb each	None
Front tires	—No, size, ply & psi	Two 7.50-16; 4; 24	Two 7.50-16; 4; 24
Ballast	—Liquid	20 lb each	None
	Cast iron	None	None
Height of drawbar		21 inches	22 inches
Static weight	—Rear	7175 lb	3590 lb
	Front	2100 lb	2060 lb
Total weight with operator		9450 lb	5825 lb

Department of Agricultural Engineering

Dates of Test: MARCH 18 TO APRIL 10, 1965

Manufacturer: FORD MOTOR COMPANY, BIRMINGHAM, MICHIGAN

FUEL, OIL and TIME Fuel No 2 Diesel Cetane No 57.0 (rating taken from oil company's typical inspection data) Specific gravity converted to 60°/60° 0.8295 Weight per gallon 6.907 lb Oil SAE 10W API service classification DS To motor 1.634 gal Drained from motor 1.118 gal Transmission lubricant Ford oil ESNM2C41-A Final drive lubricant Ford Oil ESNM2C53-A Total time engine was operated 44 hours.

ENGINE Make Ford Diesel Type 4 cylinder vertical Serial No RD00235214 Crankshaft mounted lengthwise Rated rpm 2100 Bore and stroke 4.2" x 4.2" Compression ratio 16.5 to 1 Displacement 233 cu in Cranking system 12 volt electric Lubrication pressure Air cleaner oil washed wire mesh with centrifugal precleaner Oil filter full flow replaceable paper element Oil cooler heat exchanger in lower radiator tank for transmission oil Fuel filter one filter with replaceable nylon gauze element and one filter with replaceable paper element Muffler was used Cooling medium temperature control thermostat.

CHASSIS Type standard Serial No C100736 Tread width rear 52" to 80" front 52" to 80" Wheel base 87.50" Center of gravity (without operator or ballast, with minimum tread, with fuel tank filled and tractor serviced for operation) Horizontal distance forward from centerline of rear wheels 27.30" Vertical distance above roadway 32.95" Horizontal distance from center of rear wheel tread .02" to the right Hydraulic control system direct engine drive Transmission fixed ratio operator controlled full range power shifting Advertised speeds mph first 1.0 second 1.5 third 1.7 fourth 2.3 fifth 3.6 sixth 4.6 seventh 5.3 eighth 6.9 ninth 11.1 tenth 16.4 reverse 3.1 and 4.6 Clutch multiple disc wet clutches within transmission hydraulically operated Brakes wet double disc operated by two foot pedals that can be locked Steering mechanical with hydraulic power assist Turning radius (on concrete surface with brake applied) right 111" left 111" (on concrete surface without brake) right 141" left 141" Turning space diameter (on concrete surface with brake applied) right 249" left 249" (on concrete surface without brake) right 294" left 294" Belt pulley 1072 rpm at 2050 engine rpm diam 11" face 6.5" Belt speed 3087 fpm Power take-off 540 rpm at 1900 engine rpm.

REPAIRS and ADJUSTMENTS Number four fuel injector was replaced prior to the PTO runs. The electrical wiring harness and starter safety switch on transmission were replaced before completion of drawbar runs due to failure of the safety switch.

REMARKS All test results were determined from observed data obtained in accordance with the SAE and ASAE test code.

First, second, and third gears were not run as it was necessary to limit the pull in fourth gear to avoid excessive wheel slippage. Tenth gear was not run as it exceeded 15 mph.

We, the undersigned, certify that this is a true and correct report of official Tractor Test 880.

L. F. LARSEN

Engineer-in-Charge

G. W. STEINBRUEGGE, Chairman

J. J. SULEK

D. E. LANE

Board of Tractor Test Engineers